

Great Western Painting

Grounding Conductor Program - GFCI

GROUND FAULT CIRCUIT INTERRUPTERS

Wiring design and protection. - 1926.404

Our company uses ground fault circuit interrupters.

A ground fault circuit interrupter (GFCI) provides protection for all 120-volt, 15-, 20-, and 30-ampere receptacle outlets that are not a part of the permanent wiring by detecting lost current resulting from a short, overheating, and/or ground fault. It should be noted that an extension cord into which electrical devices are plugged are not part of the permanent wiring; therefore, GFCI's are required.

A GFCI will "trip" when the amount of current amperes going to an electrical device in the hot conductor and the amount of current returning from an electrical device differs by approximately 5 milliamps. The GFCI can interrupt the current within as little as 1/40th of a second.

The current that is missing is being lost through a ground fault, whether it is in the actual grounding, a short in the equipment or electricity going through the employee to the ground.

A GFCI will not protect an employee who comes in contact with two hot wires or a hot wire and a neutral wire. A GFCI will provide protection against fires, overheating, damage to insulation, and, the most common form of electrical shock hazard -- the ground fault. GFCI's must be tested before use.

In the event that we are performing work in a chemical plant or some other type of facility where a grounding conductor program is required we will use the program on the following pages.

Great Western Painting

Assured Equipment Grounding Conductor Program

29 CFR 1926.404

Per paragraph (b)(1)(i), 29 CFR 1926.404, *Wiring Design and Protection*, ground fault protection for our employees will be provided by the use of ground fault circuit interrupters or an Assured Equipment Grounding Conductor Program.

As a general rule, the use ground fault circuit interrupters is sufficient for employee protection. However, if we are working within a facility that requires the use of an Assured Equipment Grounding Conductor Program or if the client requires an Assured Equipment Grounding Conductor Program, the following applies.

The provisions of our Assured Equipment Grounding Conductor Program cover all cord sets, receptacles which are not a part of a building or structure, and equipment which is connected by cord and plug for use, or used by, our employees on our construction sites .

A copy of this program will be maintained at all job sites where it is in use and it will be available for review by affected employees as well as inspection and copying by authorized representatives of OSHA.

At least one competent person (one who by virtue of training or experience is capable of identifying existing and predictable hazards as they relate to electrical safety and has the authorization to take prompt corrective measures to eliminate them) will be designated to implement our program. This person or persons will be identified on our Job Site Form, Designation of Competent Persons, found in our Project Manual.

The designated competent person(s) will ensure that:

- a. each cord set, attachment cap, plug and receptacle of cord sets, and any equipment connected by cord and plug [except cord sets and receptacles which are fixed and not exposed to damage] are visually inspected before each day's use for external defects, such as deformed or missing pins or insulation damage, and for indications of possible internal damage. Equipment found damaged or defective will be disposed of or be tagged out of service and not used until repaired.
- b. the following tests are performed on all cord sets, receptacles which are not a part of the permanent wiring of the building or structure, and cord- and plug-connected equipment required to be grounded:
 - i all equipment grounding conductors will be tested for continuity. Equipment grounding conductors must be electrically continuous.

- ii each receptacle and attachment cap or plug will be tested for correct attachment of the equipment grounding conductor. The equipment grounding conductor must be connected to its proper terminal.
- c. the above tests will be performed:
 - i before first use;
 - ii before equipment is returned to service following any repairs;
 - iii before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over); and
 - iv at intervals not to exceed 3 months, except that cord sets and receptacles which are fixed and not exposed to damage will be tested at intervals not exceeding 6 months.

Employees are not permitted to use any equipment which falls within the scope of this program which has not passed the above tests and inspections noted in paragraphs a., b., and c., above. Faulty equipment will be immediately discarded or tagged as faulty and immediately sent for repair.

The above tests and inspections must be recorded. The test record will identify each receptacle, cord set, and cord- and plug-connected equipment that passed the test and shall indicate the last date it was tested or the interval for which it was tested.

The test record will be kept by logs, color coding, or other effective means. Only the **latest** log must be available at the job site for inspection and review by affected employees or OSHA representatives. Previous logs may be destroyed.

While a written log identifying the equipment and the test date is acceptable, using colored electrical tape on cords, receptacles and equipment indicating the time period of the tests might be easier to accomplish and less confusing.

The competent person will ensure that outlet devices have an ampere rating not less than the load to be served and that they comply with the following:

- a. Single receptacles: a single receptacle installed on an individual branch circuit shall have an ampere rating of not less than that of the branch circuit.

- b Two or more receptacles: where connected to a branch circuit supplying two or more receptacles or outlets, receptacle ratings shall conform to the values listed in below table.
- c. Receptacles used for the connection of motors: the rating of an attachment plug or receptacle used for cord- and plug-connection of a motor to a branch circuit will not exceed 15 amperes at 125 volts or 10 amperes at 250 volts if individual overload protection is omitted.

TABLE: Receptacle Ratings for Various Size Circuits

<u>Circuit rating amperes</u>	<u>Receptacle rating amperes</u>
15	Not over 15
20	15 or 20
30	30
40	40 or 50
50	50

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Assured Equipment Grounding Conductor

Page ___ of ___

Test Log A

[Use Test Log A or B and retain most current log]

Reference 1926.404(b)(iii)(G). As of _____, _____,
(time) (date)

All equipment grounding conductors identified by _____
(color of tape or other means)

have been tested for continuity and are electrically continuous. Additionally, all receptacles and attachment caps or plugs [identified by the same color tape or other means] have been tested for correct attachment of the equipment grounding conductor and the grounding conductor is connected to its proper terminal.

Note: If color coding is used, previous and subsequent tests will use a different color code.

(Competent Person Signature)

(Date)

Test for continuity and electrically continuous

Test Log B

[Use Test Log A or B and retain most current log]

	Pass	Fail and removed from Svc
_____ (Equipment Grounding Conductor Identity)	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>

Test for receptacle and attachment cap or plug for correct attachment of equipment grounding conductor

Note: The equipment grounding conductor must be connected to its proper terminal.

_____ (Receptacle & attachment cap or plug & equipment identity)	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>

(Competent Person Signature)

(Date)